

Amendments to the claims:

Please replace all prior versions and listings of the claims with the following amended claims:

- 1 1-18. (canceled).
- 1 19. (currently amended) A laser system comprising:
- 2 a. a laser source for generating laser light comprising laser bursts comprising laser
- 3 pulses; and
- 4 b. a laser applicator for delivering a portion of the laser light to a target vascular
- 5 tissue area, the laser applicator comprising:
- 6 i. ~~an optical fiber including~~ a trunk optical fiber;
- 7 ii. an endo-probe coupled to the trunk optical fiber including a side -
- 8 firing delivery optical fiber with an input end for receiving laser
- 9 radiation from the trunk optical fiber; and
- 10 iii. a shielding structure coupled to the endo-probe including a housing
- 11 portion that surrounds a section of the delivery optical fiber and a
- 12 beam blocking portion to block forward propagation of the laser
- 13 and to form a gap with the housing portion through which the laser
- 14 light is emitted.
- 1 20. (original) The system of claim 19, wherein the laser source is configured to generate laser
- 2 light with energy corresponding to between 1 and 200 mJ/per pulse.
- 1 21. (original) The system of claim 19, wherein the laser source is configured to generate the
- 2 laser bursts with a repetition rate of between 40 and 10 Hz.
- 1 22. (original) The system of claim 19, wherein the laser source is configured to generate the
- 2 laser bursts with a separation of less than 2.0 milliseconds.
- 1 23. (previously presented) The system of claim 19, wherein the laser burst comprises between
- 2 1-24 laser pulses.

- 1 24. (previously presented) The system of claim 22, wherein the laser pulses are separated by
2 less than 2.0 milliseconds.
- 1 25. (previously presented) The system of claim 23, wherein the laser pulses have pulse widths
2 of less than 100 microseconds.
- 1 26. (currently amended) The system of claim 19, wherein the ~~laser applicator comprises a~~
2 ~~flexible side-firing delivery~~ optical fiber ~~with~~ has a firing end ~~having~~ with a diameter of
3 less than 500 microns.
- 1 27. (currently amended) The system of claim 26, wherein the delivery optical fiber is selected
2 from the group consisting of fused silica fiber and a sapphire fiber.
- 1 28. (canceled).
- 1 29. (currently amended) The system of claim ~~[[26]]~~ 19, wherein the laser applicator further
2 comprises means to control a distance of the ~~firing end~~ side-firing delivery optical fiber
3 from the vascular tissue.
- 1 30. (canceled).
- 1 31. (currently amended) The system of claim 19, wherein the laser applicator ~~is flexible~~
2 ~~allowing the laser light to be delivered to the vascular tissue at a range of~~ further
3 comprises means to control approach angles side-firing delivery optical fiber from the
4 vascular tissue.
- 1 32-47 (canceled).
- 1 48. (currently amended) A laser system comprising:
2 a. means to generate bursts of laser light comprising laser pulses;
3 b. means to focus the laser light into a trunk optical fiber;
4 c. a flexible endo-probe coupled to the trunk optical fiber, the endo-probe
5 comprising a delivery optical fiber with an input end for receiving laser radiation

6 from the trunk optical fiber and a firing end, the flexible endo-probe further
7 comprising a shroud feature that surrounds a portion of the delivery optical fiber
8 and a beam blocking structure to block forward propagation of laser light and to
9 form a gap with the shroud feature; and

- 10 d. means to adjust an approach of the delivery optical fiber to the target area of
11 vascular tissue during use, wherein the means to adjust the approach of the
12 delivery optical fiber comprises a mechanism to slidably extend the delivery
13 optical fiber from the endo-probe.

1 49. (canceled).

1 50. (previously presented) The laser system of claim 48, wherein the input end of the delivery
2 optical fiber has a diameter of less than 500 microns.

1 51. (previously presented) The laser system of claim 48, wherein the firing end of the
2 delivery optical fiber has a diameter of 300 micron or less.

1 52. (previously presented) The laser system of claim 48, wherein the firing end of the
2 delivery optical fiber has a diameter in a range of 50 to 225 micron.

1 53. (previously presented) The laser system of claim 48, wherein the means to adjust an
2 approach of the delivery optical fiber to the target area is configured to adjust the firing
3 end of the delivery optical fiber at angles between 0 and 90 degrees.

1 54. (previously presented) The laser system of claim 48, wherein the delivery optical fiber is
2 a side firing optical fiber.

1 55. (canceled).

1 56. (previously presented) The laser system of claim 54, wherein the means to generate bursts
2 of laser light comprises an Er:YAG laser medium.

- 1 57. (previously presented) The laser system of claim 48, wherein the means to generate bursts
2 of laser light is configured to provide between 5 and 200 mJ/per pulse.
- 1 58. (previously presented) The laser system of claim 48, wherein the means to generate bursts
2 of laser light is configured to generate laser pulses with a repetition rate between 40 and
3 10 Hz.
- 1 59. (previously presented) The laser system of claim 48, wherein the means to generate bursts
2 of laser light is configured to generate bursts of laser light that are less than 2.0
3 milliseconds.
- 1 60. (previously presented) The laser system of claim 48, wherein the means to generate bursts
2 of laser light is configured to generate 1-20 laser pulses for each laser burst.
- 1 61. (previously presented) The laser system of claim 60, wherein the means to generate bursts
2 of laser light is configured to generate the laser pulses at pulse separations of less than 2.0
3 milliseconds.
- 1 62. (previously presented) The laser system of claim 48, wherein the delivery optical fiber is
2 selected from the group consisting of a fused silica fiber and sapphire fiber.
- 1 63. (previously presented) The laser system of claim 48, wherein the trunk fiber is a sapphire
2 optical fiber.
- 1 64. (canceled).
- 1 65. (currently amended) The laser system of claim [[64]] 48 wherein the delivery optical
2 fiber is slidably extendable when the endo-probe is situated within a tissue cavity.
- 1 66. (previously presented) The laser system of claim 48, wherein the means to adjust the
2 approach of the delivery optical fiber comprises a mechanism to adjust the approach
3 angle through a range of angles.

1 67. (canceled).

Please add the following new claims:

1 68. (new) A laser system comprising:
2 a. a laser source to generate bursts of laser light comprising laser pulses;
3 b. a trunk optical fiber coupled to the laser source to receive the laser pulses;
4 c. an endo-probe coupled to the trunk optical fiber, the endo-probe comprising a
5 side-firing delivery optical fiber and a shroud feature that surrounds a portion of
6 the delivery optical fiber and has a beam blocking structure to block forward
7 propagation of laser light; and
8 d. an adjusting mechanism to adjust an approach of the side-firing delivery optical
9 fiber during use.

1 69. (new) The laser system of claim 69, wherein the adjusting mechanism comprises a
2 mechanism to slidably extend the delivery optical fiber from the shroud feature.